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PATENT APPLN. NO. 10/526,779  
RESPONSE UNDER 37 C.F.R. §1.111

PATENT  
NON-FINAL

IN THE CLAIMS:

1. (currently amended) A heat-sensitive recording material comprising:

(a) a transparent film;

(b) a heat-sensitive recording layer formed on one side of the transparent film, and containing an electron-donating compound, an electron-accepting compound, and a binder,

the binder being a urethane-based resin and a styrene-butadiene-based resin;

(c) a protective layer formed on the heat-sensitive recording layer, and containing an aqueous resin as a main ingredient,

the aqueous resin being an acetoacetyl-modified polyvinyl alcohol having a polymerization degree of 1500 to 3000 and a saponification degree of at least 95 mol%,

the protective layer further containing a fluorine-containing surfactant and at least one compound selected from the group consisting of alkyl phosphate salts, waxes and higher fatty acid amides; and

(d) a backside layer formed on the other side of the transparent film, and containing a pigment and a binder,

the heat-sensitive recording material containing, as the pigment, in the backside layer spherical resin particles having a

mean volume particle diameter of 2 to 15  $\mu\text{m}$  in an amount of 0.2 to 5.0 mass % of the backside layer,

the average thickness of the backside layer being 0.5 to 10  $\mu\text{m}$   
and being less than or equal to the mean volume particle diameter  
of the spherical resin particles contained in the backside layer,  
and

the binder in the backside layer being a (meth)acrylamide-based resin binder having a glass transition temperature of 180 to 250°C and an ionomeric urethane-based resin, the ionomeric urethane-based resin being contained in an amount of 3 to 30 mass % of all the binders.

2. (original) A heat-sensitive recording material according to Claim 1, wherein the average thickness of the backside layer is 0.5 to 10  $\mu\text{m}$  and is less than the mean volume particle diameter of the spherical resin particles contained in the backside layer.

3. (currently amended) A heat-sensitive recording material according to Claim 1, wherein the (meth)acrylamide-based resin binder in the backside layer is a core-shell-structured latex has a glass transition temperature of 180 to 250°C.

4. (currently amended) A heat-sensitive recording material according to Claim 1, wherein the binder in the backside layer is a (meth)acrylamide-based resin binder having a glass transition temperature of 180 to 250°C the (meth)acrylamide-based resin binder has a glass transition temperature of 200 to 230°C.

5. (currently amended) A heat-sensitive recording material according to ~~Claim 4~~ Claim 1, wherein the binder in the backside layer further contains an ionomeric urethane-based resin is contained in an amount of 5 to 20 mass % of all the binders.

6. (canceled)

7. (currently amended) A heat-sensitive recording material according to ~~Claim 6~~ Claim 1, wherein the protective layer further contains an ionomeric urethane-based resin as an aqueous resin.

8. (previously presented) A heat-sensitive recording material according to Claim 7, wherein the ionomeric urethane-based resin is present in an amount of 10 to 60 mass % relative to the acetoacetyl-modified polyvinyl alcohol.

9. (canceled)

10. (currently amended) A heat-sensitive recording material according to ~~Claim 9~~ Claim 1, wherein the total amount of the fluorine-containing surfactant and said at least one compound selected from the group consisting of alkyl phosphate salts, waxes and higher fatty acid amides in the protective layer is 0.5 to 15 mass % of the protective layer.

11. (currently amended) A heat-sensitive recording material according to ~~Claim 9~~ Claim 1, wherein said at least one compound selected from the group consisting of alkyl phosphate salts, waxes and higher fatty acid amides is present in an amount of 50 to 800 mass % relative to the fluorine-containing surfactant in the protective layer.

12. (original) A heat-sensitive recording material according to Claim 1, wherein the protective layer contains an alkyl phosphate salt, a fluorine-containing surfactant, and a compound selected from the group consisting of waxes and higher fatty acid amides.

13. (original) A heat-sensitive recording material according to Claim 1, wherein the protective layer contains an alkyl phosphate salt, a higher fatty acid amide and a fluorine-containing surfactant.

14. (original) A heat-sensitive recording material according to Claim 1, wherein the binder in the heat-sensitive recording layer is an ionomeric urethane-based resin and a styrene-butadiene-based resin.

15. (original) A heat-sensitive recording material according to Claim 14, wherein the styrene-butadiene-based resin is present in an amount of 100 to 300 mass parts per 100 mass parts of the ionomeric urethane-based resin.

16. (original) A heat-sensitive recording material according to Claim 1, wherein the electron-donating compound in the heat-sensitive recording layer is a leuco dye, and the leuco dye is microencapsulated in a resin film or is in the form of a resin composite particle containing the leuco dye.

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17. (currently amended) A heat-sensitive recording material according to ~~Claim 14~~ Claim 1, wherein the heat-sensitive recording layer has a thickness of 15 to 30  $\mu\text{m}$ .

18. (original) A heat-sensitive recording material according to Claim 1, wherein the transparent film is a polyethylene terephthalate film having a thickness of 40 to 250  $\mu\text{m}$ .

19. (original) A heat-sensitive recording material according to Claim 1 having a haze value of 10 to 50%.